

# APPENDIX NIM (NETWORK INTERCONNECTION METHODS)

TABLE OF CONTENTS

INTRODUCTION..... 1

NETWORK INTERCONNECTION ARCHITECTURE PLAN.....2

METHODS OF INTERCONNECTION .....3

RESPONSIBILITIES OF THE PARTIES .....4

## APPENDIX NIM (NETWORK INTERCONNECTION METHODS)

### 1. INTRODUCTION

- 1.1 This Appendix sets forth the terms and conditions that Network Interconnection Methods (NIM) are provided by the applicable SBC Communications Inc. (SBC) owned Incumbent Local Exchange Carrier (ILEC) and Competitive Local Exchange Carrier (CLEC). This Appendix describes the physical architecture for Interconnection of the Parties' facilities and equipment for the transmission and routing of Telephone Exchange Service traffic and Exchange Access traffic between the respective End Users of the Parties pursuant to Section 251(c)(2) of the Act; provided, however, interconnection may not be used solely for the purpose of originating a Party's own interexchange traffic.
- 1.2 **SBC Communications Inc. (SBC)** means the holding company which directly or indirectly owns the following ILECs: Illinois Bell Telephone Company d/b/a SBC Illinois, Indiana Bell Telephone Company Incorporated d/b/a SBC Indiana, Michigan Bell Telephone Company d/b/a SBC Michigan, Nevada Bell Telephone Company d/b/a SBC Nevada, The Ohio Bell Telephone Company d/b/a SBC Ohio, Pacific Bell Telephone Company d/b/a SBC California, The Southern New England Telephone Company d/b/a SBC Connecticut, Southwestern Bell Telephone, L.P. d/b/a SBC Arkansas, SBC Kansas, SBC Missouri, SBC Oklahoma and/or SBC Texas and/or Wisconsin Bell, Inc. d/b/a SBC Wisconsin.
- 1.3 **SBC-2STATE** - As used herein, **SBC-2STATE** means **SBC CALIFORNIA** and **SBC NEVADA**, the applicable SBC-owned ILEC(s) doing business in California and Nevada.
- 1.4 **SBC-4STATE** - As used herein, **SBC-4STATE** means Southwestern Bell Telephone, L.P. d/b/a SBC Arkansas, SBC Kansas, SBC Missouri, and SBC Oklahoma the applicable SBC-owned ILEC(s) doing business in Arkansas, Kansas, Missouri and Oklahoma.
- 1.5 **SBC-7STATE** - As used herein, **SBC-7STATE** means **SBC SOUTHWEST REGION 5-STATE**, **SBC CALIFORNIA** and **SBC NEVADA**, the applicable SBC-owned ILEC(s) doing business in Arkansas, California, Kansas, Missouri, Nevada, Oklahoma, and Texas.
- 1.6 **SBC-8STATE** - As used herein, **SBC-8STATE** means **SBC SOUTHWEST REGION 5-STATE**, **SBC CALIFORNIA**, **SBC NEVADA**, and **SBC CONNECTICUT** the applicable SBC-owned ILEC(s) doing business in Arkansas, California, Connecticut, Kansas, Missouri, Nevada, Oklahoma, and Texas.
- 1.7 **SBC-10STATE** - As used herein, **SBC-10STATE** means **SBC SOUTHWEST REGION 5-STATE** and **SBC MIDWEST REGION 5-STATE** an the applicable SBC-owned ILEC(s) doing business in Arkansas, Illinois, Indiana, Kansas, Michigan, Missouri, Ohio, Oklahoma, Texas, and Wisconsin.
- 1.8 **SBC-12STATE** - As used herein, **SBC-12STATE** means **SBC SOUTHWEST REGION 5-STATE**, **SBC MIDWEST REGION 5-STATE** and **SBC-2STATE** the applicable SBC-owned ILEC(s) doing business in Arkansas, California, Illinois, Indiana, Kansas, Michigan, Missouri, Nevada, Ohio, Oklahoma, Texas, and Wisconsin.
- 1.9 **SBC-13STATE** - As used herein, **SBC-13STATE** means **SBC SOUTHWEST REGION 5-STATE**, **SBC MIDWEST REGION 5-STATE**, **SBC-2STATE** and **SBC CONNECTICUT** the applicable SBC-owned ILEC(s) doing business in Arkansas, California, Connecticut, Illinois, Indiana, Kansas, Michigan, Missouri, Nevada, Ohio, Oklahoma, Texas, and Wisconsin.
- 1.10 **SBC ARKANSAS** - As used herein, **SBC ARKANSAS** means Southwestern Bell Telephone, L.P. d/b/a SBC Arkansas, the applicable SBC-owned ILEC doing business in Arkansas.
- 1.11 **SBC CALIFORNIA** - As used herein, **SBC CALIFORNIA** means Pacific Bell Telephone Company d/b/a SBC California, the applicable SBC-owned ILEC doing business in California.
- 1.12 **SBC CONNECTICUT** - As used herein, **SBC CONNECTICUT** means The Southern New England Telephone Company, the applicable above listed ILEC doing business in Connecticut.

- 1.13 SBC KANSAS - As used herein, SBC KANSAS means Southwestern Bell Telephone, L.P. d/b/a SBC Kansas, the applicable SBC-owned ILEC doing business in Kansas.
- 1.14 SBC ILLINOIS - As used herein, SBC ILLINOIS means Illinois Bell Telephone Company d/b/a SBC Illinois, the applicable SBC-owned ILEC doing business in Illinois.
- 1.15 SBC INDIANA - As used herein, SBC INDIANA means Indiana Bell Telephone Company Incorporated d/b/a SBC Indiana, the applicable SBC-owned ILEC doing business in Indiana.
- 1.16 SBC MICHIGAN - As used herein, SBC MICHIGAN means Michigan Bell Telephone Company d/b/a SBC Michigan, the applicable SBC-owned doing business in Michigan.
- 1.17 SBC MIDWEST REGION 5-STATE - As used herein, SBC MIDWEST REGION 5-STATE means Illinois Bell Telephone Company d/b/a SBC Illinois, Indiana Bell Telephone Company Incorporated d/b/a SBC Indiana, Michigan Bell Telephone Company d/b/a SBC Michigan, The Ohio Bell Telephone Company d/b/a SBC Ohio, and/or Wisconsin Bell, Inc. d/b/a SBC Wisconsin, the applicable SBC-owned ILEC(s) doing business in Illinois, Indiana, Michigan, Ohio, and Wisconsin.
- 1.18 SBC MISSOURI - As used herein, SBC MISSOURI means Southwestern Bell Telephone, L.P. d/b/a SBC Missouri, the applicable SBC-owned ILEC doing business in Missouri.
- 1.19 SBC NEVADA - As used herein, SBC NEVADA means Nevada Bell Telephone Company d/b/a SBC Nevada, the applicable SBC-owned ILEC doing business in Nevada.
- 1.20 SBC OHIO - As used herein, SBC OHIO means The Ohio Bell Telephone Company d/b/a SBC Ohio, the applicable SBC-owned ILEC doing business in Ohio.
- 1.21 SBC OKLAHOMA - As used herein, SBC OKLAHOMA means Southwestern Bell Telephone, L.P. d/b/a SBC Oklahoma, the applicable SBC-owned ILEC doing business in Oklahoma.
- 1.22 SBC SOUTHWEST REGION 5-STATE - As used herein, SBC SOUTHWEST REGION 5-STATE means Southwestern Bell Telephone, L.P. d/b/a SBC Arkansas, SBC Kansas, SBC Missouri, SBC Oklahoma and/or SBC Texas the applicable above listed ILEC(s) doing business in Arkansas, Kansas, Missouri, Oklahoma, and Texas.
- 1.23 SBC TEXAS - As used herein, SBC TEXAS means Southwestern Bell Telephone, L.P. d/b/a SBC Texas, the applicable SBC-owned ILEC doing business in Texas.
- 1.24 SBC WISCONSIN - As used herein, SBC WISCONSIN means Wisconsin Bell, Inc. d/b/a SBC Wisconsin, the applicable SBC-owned ILEC doing business in Wisconsin.
- 1.25 SBC-13STATE shall provide, for CLEC's facilities and equipment, interconnection for the transmission and routing of telephone exchange service and exchange access, at a level of quality that is equal to that which SBC-13STATE provides itself, a subsidiary, an affiliate, or any other party to which SBC-13STATE provides interconnection and on rates, terms and conditions that are just, reasonable and non-discriminatory.
- 1.26 **Network Interconnection Methods (NIMs)** include, but are not limited to, Physical Collocation; Virtual Collocation; Fiber Meet Point; and other technically feasible method of obtaining interconnection which is incorporated into the Interconnection Agreement by amendment. One or more of these methods may be used to effect the Interconnection pursuant to Section 25(c)(2) of the Act.

## 2. NETWORK INTERCONNECTION ARCHITECTURE PLAN

- 2.1 SBC-13STATE's network is partly comprised of End Office switches, Local Only Tandem Switches (SBC SOUTHWEST REGION 5-STATE and SBC MIDWEST REGION 5-STATE), Local/IntraLATA Tandem Switches, Local/Access Tandem Switches, and Access Tandem Switches. SBC-13STATE's network architecture in any given local exchange area and/or LATA can vary markedly from another local exchange area/LATA. Using one or more of the NIMs herein, the Parties will agree to a physical architecture plan for a specific Interconnection area. A physical architecture plan will, at a minimum, include the location of CLEC's switch(es) and SBC-13STATE's End Office switch(es) and/or Tandem switch(es) to be

- interconnected, the facilities that will connect the two networks and which Party will provide (be financially responsible for) the interconnection facilities. At the time of implementation in a given local exchange area or LATA the plan will be documented and signed by appropriate representatives of the Parties, indicating their mutual agreement to the physical architecture plan.
- 2.2 Points of Interconnection (POIs): A Point of Interconnection (POI) is a point on the SBC-13STATE network (End Office or Tandem building) where the Parties deliver Section 251(b)(5)/IntraLATA Toll Traffic to each other, and also serves as a demarcation point between the facilities that each Party is responsible to provide.
- 2.3 Each Party is responsible for the facilities to its side of the negotiated POI(s) and may utilize any method of Interconnection described in this Appendix. Each Party is responsible for the appropriate sizing, operation, and maintenance of the transport facility to the POI(s). The parties agree to provide sufficient facilities for the trunk groups required in Appendix ITR for the exchange of traffic between CLEC and SBC-13STATE.
- 2.4 Types of Points of Interconnection
- 2.4.1 A "Tandem Serving Area" or "TSA" is an SBC-13STATE area defined by the sum of all local calling areas served by SBC-13STATE End Offices that subtend an SBC-13STATE tandem for Section 251(b)(5)/IntraLATA Toll Traffic as defined in the LERG.
- 2.4.2 The Parties will interconnect their network facilities at a minimum of one CLEC designated Point of Interconnection (POI) within SBC-13STATE's network in the LATA where CLEC Offers Service.
- 2.4.3 A "Single POI" is a single point of interconnection within a LATA on SBC-13STATE's network that is established to interconnect SBC-13STATE's network and CLEC's network for the exchange of Section 251(b)(5)/IntraLATA Toll Traffic.
- 2.4.4 The Parties agree that CLEC has the right to choose a Single POI or multiple POIs.
- 2.4.5 When CLEC has established a Single POI (or multiple POIs) in a LATA, CLEC agrees to establish an additional POI:
- (i) at an SBC-13STATE TSA separate from the existing POI arrangement when traffic through the existing POI arrangement to that SBC-13STATE TSA exceeds twenty-four (24) DS1s at peak over three (3) consecutive months, or
- (ii) at an SBC-13STATE End Office in a local calling area not served by an SBC-13STATE tandem for Section 251(b)(5)/IntraLATA Toll Traffic when traffic through the existing POI arrangement to that local calling area exceeds twenty-four (24) DS1s at peak over three (3) consecutive months.
- 2.4.6 The additional POI(s) will be established within 90 days of notification that the threshold has been met.
- 2.5 Either Party must provide thirty (30) days written notice of any intent to change to the physical architecture plan.
- 2.6 CLEC is solely responsible for the facilities that carry OS/DA, E911, Mass Calling and Meet Point Trunk Groups as specified in Appendix ITR.
- 2.7 Technical Interfaces
- 2.7.1 The Interconnection facilities provided by each Party shall be formatted using either Alternate Mark Inversion (AMI) line code with Superframe format framing or Bipolar 8 Zero Signaling (B8ZS) with Extended Superframe format framing or any mutually agreeable line coding and framing.
- 2.7.2 Electrical handoffs at the POI(s) will be at the DS1 or DS3 level. When a DS3 handoff is agreed to by the Parties, SBC-13STATE will provide any multiplexing required for DS1 facilities or trunking at their end and CLEC will provide any DS1 multiplexing required for facilities or trunking at their end.
- 2.7.3 When the Parties demonstrate the need for Optical handoffs at the OC-n level, the parties will meet to negotiate specific Optical handoff needs.

### 3. METHODS OF INTERCONNECTION

#### 3.1 Physical Collocation

3.1.1 When CLEC provides its own facilities or uses the facilities of a third party to a SBC-13STATE Tandem or End Office building and wishes to place its own transport terminating equipment at that location, CLEC may Interconnect using the provisions of Physical Collocation as set forth in Appendix Collocation.

#### 3.2 Virtual Collocation

3.2.1 When CLEC provides its own facilities or uses the facilities of a third party to a SBC-13STATE Tandem or End Office building and wishes for SBC-13STATE to place transport terminating equipment at that location on CLEC's behalf, CLEC may Interconnect using the provisions of Virtual Collocation as set forth in Appendix Collocation. Virtual Collocation allows CLEC to choose the equipment vendor and does not require that CLEC be Physically Collocated.

#### 3.3 Fiber Meet Point

3.3.1 Fiber Meet Point between SBC-13STATE and CLEC can occur at any mutually agreeable and technically feasible point at an SBC-13STATE Tandem or End Office building within each local exchange area (SBC SOUTHWEST REGION 5-STATE) or LATA (SBC MIDWEST REGION 5-STATE, SBC CONNECTICUT, and SBC-2STATE).

3.3.2 When the Parties agree to interconnect their networks pursuant to the Fiber Meet Point, a single point-to-point linear chain SONET system must be utilized. Only Local Interconnection Trunk Groups shall be provisioned over this jointly provided facility.

3.3.3 Neither Party will be allowed to access the Data Communications Channel ("DCC") of the other Party's Fiber Optic Terminal (FOT). The Fiber Meet Point will be designed so that each Party may, as far as is technically feasible, independently select the transmission, multiplexing, and fiber terminating equipment to be used on its side of the POI(s). The Parties will work cooperatively to achieve equipment and vendor compatibility of the FOT equipment.

3.3.4 Requirements for such Interconnection specifications will be defined in joint engineering planning sessions between the Parties.

3.3.5 In addition to the semi-annual trunk forecast process, discussed in Appendix ITR, discussions to provide relief to existing facilities can be initiated by either party. Actual system augmentations will be initiated only upon mutual agreement. Facilities will be planned for to accommodate the verified and mutually agreed upon trunk forecast for the Local Interconnection Trunk Group(s).

3.3.6 Both Parties will negotiate a project service date and corresponding work schedule to construct relief facilities prior to facilities exhaust.

3.3.7 CLEC will provide fiber cable to the last entrance (or SBC-13STATE designated) manhole at the SBC-13STATE Tandem or End Office building. SBC-13STATE shall make all necessary preparations to receive and to allow and enable CLEC to deliver fiber optic facilities into that manhole. CLEC will provide a sufficient length of Fiber cable for SBC-13STATE to pull through to the SBC-13STATE cable vault. CLEC shall deliver and maintain such strands wholly at its own expense up to the POI. SBC-13STATE shall take the fiber from the manhole and terminate it inside SBC-13STATE's office at the cable vault at SBC-13STATE's expense. In this case the POI shall be at the SBC-13STATE designated manhole location.

3.3.8 Each Party shall provide its own source for the synchronized timing of its FOT equipment.

3.3.9 CLEC and SBC-13STATE will mutually agree on the capacity of the FOT(s) to be utilized based on equivalent DS1s or DS3s. Each Party will also agree upon the optical frequency and wavelength necessary to implement the Interconnection. The Parties will develop and agree upon methods for the capacity planning and management for these facilities, terms and conditions for over provisioning

facilities, and the necessary processes to implement facilities as indicated in section 4 of this document.

3.4 Other Interconnection Methods

- 3.4.1 The Parties may mutually agree to other methods of obtaining interconnection that are technically feasible which are incorporated into the Interconnection Agreement by amendment.

**4. RESPONSIBILITIES OF THE PARTIES**

- 4.1 For each local Interconnection within an SBC-13STATE area, CLEC shall provide written notice to SBC-13STATE of the need to establish Interconnection in each local exchange area (SBC SOUTHWEST REGION 5-STATE) or LATA (SBC-2STATE, SBC CONNECTICUT and SBC MIDWEST REGION 5-STATE). CLEC shall provide all applicable network information on forms acceptable to SBC-13STATE (as set forth in SBC's CLEC Handbook, published on the CLEC website).
- 4.2 Upon receipt of CLEC's notice to interconnect, the Parties shall schedule a meeting to document the network architecture (including trunking) as discussed in Section 2.1. The Interconnection activation date for an Interconnection shall be established based on then-existing force and load, the scope and complexity of the requested Interconnection and other relevant factors.
- 4.3 Either party may add or remove additional switches. The parties shall provide 120 days written notice to establish such Interconnection; and the terms and conditions of this agreement will apply to such Interconnection.
- 4.4 The Parties recognize that a facility handoff point must be agreed to that establishes the demarcation for maintenance and provisioning responsibilities for each party on their side of the POI.